

LIPCHENKO, V.D.; SLESAREVA, T.A.; SHURSHIKOVA, P.A.; SHUL'MAN, D.I.;
SMIRNOV, Ye.V.; KONOVALOVA, N.A.; PEN'KOV, Ye., red.; LEBEDEV,
A., tekhn.red.

[Collection of exercises in calculating industrial production
costs] Sbornik uprashnenii po kal'kulirovaniu sebestoimosti
promyshlennoi produktsii. Moskva, Gosfinisdat, 1959. 207 p.
(MIRA 12:11)

(Costs, Industrial)

AKIMOV, N.I.; VOLKOV, S.P.; KONOVALOVA, N.A.; OSINOVSKAYA, R.I.; PLISKO, Yu.Yu.; SEVEROV, M.M.; STEPANOV, L.A.; SHCHUKIN, V.Ya.; VORONICHEV, M.P., red.; TSARENKO, A.P., red.; VERINA, G.P., tekhn.red.

[International railroad transportation] Mezhdunarodnye shelesno-dorozhnye soobshcheniia. Pod red. M.P.Voronicheva. Moskva, Gos. transp.zhel-dor.izd-vo, 1959. 242 p. (MIRA 13:2)
(Railroads)

KONOVALOV, G.I., inzh.; KONOVALOVA, N.A., inzh.

Expansion of railroad transportation in the German Democratic Republic. Zhel.dor.transp. 42 no.4:89-92 Ap '60.
(MIRA 13:7)

(Germany, East--Railroads)

KONOVALOVA, N.A.

Diagnostic significance of disorders of the reductive capacity of the
blood serum in malignant neoplasms. Lab.delo 5 no.4:27-29 J1-Ag '59.
(MIRA 12:12)

1. Is laboratorii 1-y Novocherkasskoy gorodskoy bol'nitsy (glavnyy
vrach M.S. Kalyushnaya).
(SERUM) (CANCER)

KONOVALOVA, N.A., inzh.

Uniform international transportation nomenclature for freight.
Zhel.-dor.transp. 43 no.9:82-85 S '61. (MIRA 14:8)
(Railroads--Freight)

KONOVALOVA, N.G.; NAUMOVA, Ye.K.; RZHEVSKAYA, G.F.; TIMEYEVA, S.M.

Bactericidal effect of organophosphorus preparations and antibiotics on staphylococci of the genitals. Nauch. trudy Kaz. gos. med. inst. 14:207-208 '64. (MIRA 18:9)

1. Kafedra mikrobiologii (zav. - dotsent Z.Kh.Karimova)
i kafedra farmakologii (zav. - dotsent T.V.Raspopova)
Kazanskogo meditsinskogo instituta.

KONOVALOVA, N. I.

1492 Nekotoryye voprosy obrabotki tocheniyem sloistykh plasticheskikh mass. Sverdlovsk, 1954 16 s 22 sm (M- Vo vyssh. obrazovaniya SSSR. Ural'skiy politekhn in-t im. S. M. Kirova) 100 ekz. F. ts- (54-54171)

SO: Knizhaya Letopis', Vol. 1, 1955

KONOVALOVA, N. I.

"Some Questions in the Processing of Laminated Plastics by Grinding." Cand
Tech Sci, Ural Polytechnic Inst imeni S. M. Kirov, Min Higher Education USSR,
Sverdlovsk, 1954. (KL, No 1, Jan 55)

Survey of Scientific and Technical Dissertations Defended at USSR Higher
Educational Institutions (12)
SO: Sum. No. 556, 24 Jun 55

KONOVALOVA, N.I.; VERBER, N.Z.

Lathe operations on "Getinaks", a laminated plastic material.
Trudy Ural.politekh.Inst. no.50:131-148 '56. (MLRA 9:11)
(Plastic materials) (Machine-shop practice)

KONOVALOVA, R.

3(6) PHASE I BOOK EVALUATION 807/7053

Moscow, Universitet. Geograficheskii (Subal'tet

Voprosy gidrologii (Problems in Hydrology) [Moscow] Izd-vo

Mezhdunarodnoy univ., 1957. 231 p. 2,400 copies printed.

Reep. Ed.: I. V. Smolyov and L. B. Kuryanov; Tech Ed.: R.S.

Formanov. This book is intended for hydrologists and geographers.

CONTENTS: This collection of articles on the hydrology of the

book is dedicated to Professor Ye. V. Blinnikov, Doctor of Tech-

nical Sciences. Among the topics discussed are: 1) the effect

of air temperature on flow volume, 2) the calculation of stream

runoff, 3) the speed of flood waters, 4) stream levels, 5)

spring floods, 6) suspended sediments in running streams, 7) the

effect of agricultural practices on hydrology, and others. The

discussions are accompanied by maps, graphs and tables illustrating the present or long-term hydrology of the USSR. References accompany each article.

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Basins and Its Role in the Creation of Spring Floods 159

Smolyov, I. V. Attempt at a Hydrological Subdivision of 175

the Northwestern Caspian Area

Sholensky, I. A. Runoff Water Distribution in the Annual 186

Regimen of Rivers

Smolyov, A. A. The Relationship of the Water Balance of 195

Lakes to the Dimensions of a Lake and Its Basin Under Var-

ious Geographical Conditions

Arkhangel'skiy, M. M. Some Prospects in the Application of 205

Physical Methods in Hydrometry

Smolyov, Ye. V. A. The Problem of the Methodology of the Quanti- 211

tative Evaluation of the Best Regime of Running Waters

Card 5/6

BEFANI, N.F., kand. tekhn. nauk; KONOVALOVA, N.I., kand. geograf. nauk

Formulas for estimating rain-water infiltration. Trudy OGMI no.15:
93-102 '58. (MIRA 12:7)

1.Odesskiy gosudarstvennyy universitet.
(Soil percolation)

KONOVALOVA, N. I

Seliger, Lake

Lake Seliger. Vop. geog., 26, 1951

9. Monthly List of Russian Accessions, Library of Congress, April ² 1953, Unclassified.

EMANUEL, N.M.; KONOVALOVA, N.P.; DRONOVA, L.M.

~~APPROVED FOR RELEASE: 06/19/2000~~

CIA-RDP86-00513R000824330007-

Kinetic characteristics of the antitumoral activity of chemical compounds of various classes. Dokl. AN SSSR 143 no.3:737-740
M., '52. (MIRA 15:3)

1. Institut khimicheskoy fiziki AN SSSR. 2. Chlen-korrespondent AN SSSR (for Emanuel'.)
(Cytotoxic drugs)

EMANUEL', N.M.; DRONOVA, L.M.; KONOVALOVA, N.P.; MAYZUS, Z.K.;
SKIBIDA, I.P.

Antileukemic effect of 2,6-di-tert.-butyl-4-methylphenol
(ionol). Dokl. AN SSSR 152 no.2:481-484 S '63. (MIRA 16:11)

X

L 59350-65

ACCESSION NR: AP5019335

UR/0020/64/157/003/0707/0709

AUTHOR: Konovalova, N. P.; Bogdanov, G. N.; Miller, V. B.; Neyman, M. V.;
Rozantsev, E. G.

14
B

TITLE: Antitumor activity of stable free radicals

SOURCE: AN SSSR. Doklady, v. 157, no. 3, 1964, 707-709

TOPIC TAGS: biochemistry, neoplasm

ABSTRACT: The antitumor activity of free radicals was studied in the light of literature data indicating that a vital role in the mechanism of the antitumor action of inhibitors of radical processes is played by the action of comparatively stable free radicals formed from the inhibitors. Stable free radicals of a number of 4-substituted 2,2,6,6-tetramethylpiperidine oxides were investigated by a kinetic method of determining antitumor effectiveness. The kinetics of the changes in the weight of the spleen, number of leukocytes and hemocytoplasts per cubic millimeter of blood and percent content of hemocytoplasts in the bone marrow were studied in mice of the C57DL line with grafted leukemia from the La strain. Antileukemic activity was discovered in three free radicals; the

Card 1/2

L 59350-65

ACCESSION NR: AF5019335

antileukemic activity of one of the preparations was found to be due to the presence in its molecule of both an unpaired electron and of a urethan group.

Orig. art. has: 4 graphs, 1 table.

ASSOCIATION: Institut khimicheskoy fiziki Akademii nauk SSSR (Institute of Chemical Physics, Academy of Sciences SSSR)

SUBMITTED: 19Mar63

ENCL: 00

SUB CODE: LS, GC

NR REF SOV: 005

OTHER: 003

JPRS

Card

2/2

EMANUEL', N.M.; KONOVALOVA, N.P.; BOGDANOV, G.N.; VASIL'YEVA, L.S.

Kinetics of the development of ascitic leukemia L-1210. Dokl.
AN SSSR 160 no.6:1421-1423 F '65.

(MIRA 18:2)

1. Institut khimicheskoy fiziki AN SSSR. 2. Chlen-korrespondent
AN SSSR (for Emanuel').

PANICH, R.M.; KONOVALOVA, N.V.; GONSOVSKAYA, T.B.; SANDOMIRSKIY, D.M.;
VOYUTSKIY, S.S.

Properties of latexes prepared with the aid of nonionic
stabilizers. Part 2: Butadiene-styrene latexes. Koll. zhur.
27 no.4:589-592 J1-Ag '65. (MIRA 18:12)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni
M.V. Lomonosova. Submitted March 7, 1964.

KONOVALOVA, N. Ye.

"Agrobiological Basis for the Elimination of Sclerotinia of Sunflowers."
Cand Agr Sci, All-Union Sci Res Inst of Plant Protection; All-Union Order of Lenin
Academy of Agricultural Sciences imeni V. I. Leningrad, 1955. (KL, No 11, Mar 55)

So: Sum. No. 670, 29 Sep 55 - Survey of Scientific and Technical Dissertations
Defended at USSR Higher Educational Institutions (15)

RAYBININ, A.A.; KONOVALOVA, N.Ye.

Some syntheses based on glycyrrhetic acid. Zhur.ob.khim.
32 no.2:644-646 F '62. (MIRA 15:2)

1. Leningradskiy gosudarstvennyy universitet.
(Glycyrrhetic acid)

KONOVALOVA, N.Z., kand. sel'skokhozyaystvennykh nauk.

Effect of bacterial fertilizers on increasing yield and on
decreasing infection of sunflowers by sclerotinia. Zemledelie
7 no.2:89 F '59. (MIRA 12:3)
(Sunflowers--Diseases and pests) (Fertilizers and manures)

KONOVALOVA, O. A.

"Effect of High Pressure on the Autolysis of Tissues."

Sub 24 May 51, Acad Med Sci USSR.

Dissertations presented for science and engineering degrees
in Moscow during 1951.

SO: Sum. No. 480, 9 May 55

KONOVALOVA, O.A.; POLTEVA, Yu.K.

Using a pectin enriched diet in children with protracted and
chronic forms of dysentery. *Pediatrics* no.8:32-34 Aug '57.
(DYSENTERY) (PECTIN) (MIRA 10:12)

KONOVALOVA O.A. (Moskva)

Pectins and their use in therapeutic diets; review of literature
[with summary in English]. Vop.pit. 16 no.2:3-9 Mr-Apr '57.

(MIRA 10:10)

1. Iz otdela pishchevoy tekhnologii (zav. - kandidat tekhnicheskikh
nauk S.M.Bessonov) Instituta pitaniya AMN SSSR, Moskva.

(PECTINS

use in med. diets, review (Rus))

USSR/Pharmacology and Toxicology. Miscellaneous Preparations.

V

Abs Jour: Ref Zhur-Biol., No 19, 1958, 89977.

Author : Konovalova, O.A.; Poltiyeva, Yu. K.

Inst : -

Title : On the Problem of Pectin Administration in the Treatment of Dysentery.

Orig Pub: Vopr. pitaniya, 1958, 17, No 2, 47-50.

Abstract: Pectin was administered to 14 children suffering from dysentery of long duration and chronic course, in doses of 5 g three times daily (in combination with a diet). A favorable effect was obtained in the majority of cases. This drug is recommended as a supplemental means in the therapy of dysentery.

Card : 1/1

*Dept. Food Technology + Dept. Food
Children's Nutrition, Inst. Nutrition
AMS USSR*

KONOVALOVA, O.A.; BESSONOV, S.M.

Composition of protopectine in certain vegetables. Vop.pit. 18
no.5:71-75 S-O '59. (MIRA 13:1)

1. Iz Otdela pishchevoy tekhnologii (zav. - kand.tekhn.nauk S.M.
Bessonov) Instituta pitaniya AMN SSSR, Moskva.
(PECTINS chem.)
(VEGETABLES chem.)

KONOVALOVA, O.A.; KUBAYEVA, I.B.

Influence of pectin on some biochemical processes in the large intestine. Vop.pit. 19 no.1:49-54 Ja-F '60. (MIRA 13:5)

1. Iz oddela pishchevoy tekhnologii (zav. - kand.tekhn.nauk S.M. Bessonov) i iz laboratorii fiziologii pishchevareniya (zav. - prof. G.K. Shlygin) Instituta pitaniya AMN SSR, Moskva.
(INTESTINES pharmacol.)
(PECTIN pharmacol.)

KONOVALOVA, O.A.

Pectase and polygalacturonase in some vegetables and fruits.
Vop. pit. 20 no.4:48-52 J1-Ag '61. (MIRA 14:7)

1. Iz otdela pishchevoy tekhnologii (zav. - kandidat tekhn.nauk
'S.M.Bessonov (deceased)) Instituta pitaniya AMN SSSR, Moskva.
(VEGETABLES) (FRUIT) (ENZYMES)

KONNOVALOVA, O. N.

KASHINA, L.P.; KONOVALOVA, O.N.

A valuable pamphlet ("Organization of work of textile quality controllers in cotton finishing." reviewed by L.P.Kashina, O.N.Konovalova). Tekst.prom. 14 no.10:54 O '54. (MIRA 7:10)

1. Nachal'nik otдела tekhnicheskogo kontrolya fabriki "Krasnaya Talka" (for Kashina).
 2. Zaveduyushchiy tekhnicheskoy bibliotekoy. (for Konovalova).
- (Cotton finishing)

EMANUEL', N.M.; DRONOVA, L.M.; GAGARINA, A.B.; KONOVA'LOVA, N.P.

Critical phenomena in transplantable leucosis. Dokl. AN SSSR 155
no.1:220-223 Mr '64. (MIHA 17:4)

1. Institut khimicheskoy fiziki AN SSSR. 2. Chlen-korrespondent
AN SSSR (for Emanuel').

1ST AND 2ND ORDERS										PROCESSING AND PROPERTY INDEX										3RD AND 6TH ORDERS									
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<div style="float: right; font-size: 2em; margin-right: 10px;">17</div> <div style="float: left; font-size: 2em; margin-left: 10px;">ca</div> <p style="text-align: center;"> Purifying cephalin. Dr. A. Kurovskaya. Russ 81,020, July 27, 1929. Amino acid unit of crude cephalin is added gradually to a soln. of NH_3 and ether under agitation. The cephalin is then crystallized out from ether by usual methods. </p>																													
<div style="display: flex; justify-content: space-between;"> <div> <p>COMMON ELEMENTS</p> <p>PERMANENT MODES</p> <p>OTHER</p> </div> <div> <p>1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32</p> </div> <div> <p>1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32</p> </div> </div>																													
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1ST AND 2ND ORDERS										3RD AND 4TH ORDERS									
PROCESSES AND PROPERTIES INDEX																			
<p>B</p> <p>a-4</p> <p>Alkaloids from <i>Lonicera caerulea</i>. A. P. Oshakov and B. A. Kuznetsova (Khim. Farm. Prom., 1982, 56, 371-375). Data table of <i>L. caerulea</i> (alkaloids 0-4%) contains: identification, $C_{15}H_{15}N_2$ (hydrochloride); <i>decolorization</i>; <i>chromophores</i>; <i>picrate</i>, and <i>isolation</i>, m.p. 115-116. Ch. Ass.</p>																			
<p>ASS-5LA METALLURGICAL LITERATURE CLASSIFICATION</p>																			
<p>ROOM DIVISION</p>										<p>ROOM DIVISION</p>									
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Alkaloids of species of *Sonchus*. R. A. Komolova
Bull. Acad. Sci. T. R. S. S., Classe sci. math. nat., Ser. chim. 1930, 001 6 (in French 900-7). The hydrolysis of platiphylline (cf. C. A. 30, 67467) yields the amino alc., platynocine (I), $C_{11}H_{13}NO_4$, and platynocinic acid, $C_{11}H_{11}NO_5$. I contains 2 OH groups in the γ - or δ -position and forms a di-H₂ deriv., $C_{11}H_{15}NO_4$, and a chloride (II), $C_{11}H_{13}NCl$. Elimination of H₂O from I leads to an oxole, $C_{11}H_{11}NO$. Its Hofmann degradation it has been established that the N atom is situated at the intersection of the heterocyclic nuclei. Reduction of II gives helenidine, $C_{11}H_{15}N$, previously obtained from the alkaloids helenidine, lasiocarpine and trichodesmine obtained from the *Blaugia* *arata* and thus establishing a connection between these alkaloids and those of the species *Sonchus*. C. R. A.

ALSO SEE DETAIL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS										3RD AND 6TH ORDERS									
COMMON ELEMENTS																			
COMMON VARIABLES INDEX																			
<p>BC</p> <p>Hormine and hormaline series. I. N-Alkyl derivatives of hormine and hormaline. R. A. KOROVALOVA and A. P. OUSANOV (J. Gen. Chem. Russ., 1955, 3, 487-490).—2-N-Methylbenzylidene-hormine (I), m.p. 192-193°, and EtI in PhMe-PbNO₂ yield the ethide, m.p. 229-231°, of (I), not attacked by boiling 10% aq. NaOH or 25% aq. NH₃. 2-N-Ethylbenzylidene-hormine, m.p. 196-200°, and MeI, under analogous conditions, yield a methiodide, m.p. 251-252°. 2-N-Methylhormine and EtI afford an ethide, m.p. 262-263°, not identical with the methiodide, m.p. 262°, of 2-N-ethylhormine, m.p. 221-222°. 2-N-Ethylhormine, m.p. 163-164° [from hormine ethide, m.p. 222-223° (decomp.)], and MeI in MeOH yield a methiodide, m.p. 241-243°, identical with that obtained from 2-N-methylhormine and EtI in EtOH. The results are in accordance with the views of Fickin and Robinson (J.C.S., 1919, 125, 3461; 1926, 226, 687) on the structure of hormine and hormaline.</p> <p>R. T.</p> <p>2-3</p>																			
ASB-ILA METALLURGICAL LITERATURE CLASSIFICATION																			
SOURCE SYNONYM										SOURCE SYNONYM									
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SYNOPSIS										SYNOPSIS									

KONOWALOWA, R. A.

"Recherches dans le domaine du garminé et du garmaline. Communication II". Konowalowa, R. A.,
Proskournina, N. P. et Orekhov, A. P. (p. 1256)

SO: Journal of General Chemistry (Zhurnal Obshchei Khimii) 1936, Vol. 6, No. 9

Alkaloids of: (A) *Convolvulus panchakotensis*.
A. P. Oshennov and R. A. Kozlovskaya.
(B) *Arenaria densa*. (C) *Cystium rubicundum*.
A. P. Oshennov and S. S. Noshina. (D) *Cystium rubicundum*. S. S. Noshina and A. P. Oshennov.
(E) *Convolvulus thurberi*. S. S. Noshina, T. Markovskiy, and A. P. Oshennov (J. Gen. Chem. Russ., 1957, 7, 644-653, 673-675, 743-744, 853-854, 898-910).—(A) Four new alkaloids, convolvins (I), $C_{14}H_{17}O_4N$, m.p. 115° (nitrate, m.p. 210-214°), convolvamine (II), $C_{14}H_{17}O_4N$, m.p. 114-116° (hydrochloride, m.p. 237-238°; picrate, m.p. 265-264° (decomp.); platinochloride, m.p. 216-217°; acetylchloride, m.p. 202-203°; methiodide, m.p. 278-275°), convolvidine (III), $C_{14}H_{17}O_4N_2$ or $C_{14}H_{17}O_4N$, m.p. 192-193°, and convolvosine (IV), $C_{14}H_{17}O_4N$, b.p. 280-280° (picrate, m.p. 280-280°), have been isolated from Central Asiatic specimens of the plant. When hydrolyzed with 10% KOH in MeOH (I) yields nortropine and veratric acid (V), and is identical with veratroylnortropine. (II) is the *N*-Me derivative of (I), and is synthesized from tropine and veratroyl chloride in PhMe (at the b.p.). (II) gives (V) and an unidentified NH_2 -alcohol, m.p. 272-273°, when hydrolyzed. (IV) is present in traces only, and no information as to its structure was obtained.
(b) Donaxine (A., 1935, 634, identical with von Euler's gramine, A., 1935, 741) [picrate, m.p. 144-145°; perchlorate, m.p. 181°; platinochloride, m.p. 180-181° (decomp.); methiodide, m.p. 176-177°] yields skatole when distilled from Zn; von Euler's results are thus confirmed.
(c) *d*-Lupanine (VI), pachycarpine, and an alkaloid, m.p. 130-121°, not identical with cytisine (VII) or methyleytisine (VIII) have been found in extracts of the plant.
(d) The plant contains 0.16% of alkaloids, consisting of (VI), with traces of *l*-sparteine (IX) when the material is collected in May, and of (VI) 70%, and (IX) 30%, in October.
(e) The plant contains 0.33% (dry wt.) of alkaloids, of which anagryrine, (VII), (VIII), and an unknown alkaloid, m.p. 95-96° (picrate, m.p. 244-246°), were isolated.
R. T.

KONOWALOWA, R. A.

"Sur les alcalorides des coquelicots sauvages. I. Alcaloides du Papaver orientale et Papaver armeniacum." R. A. Konowalowa, S. Jounoussow et A. P. Orekhov. (p. 1791)

SO: Journal of General Chemistry (Zhurnal Obshchei Khimii). 1937, Volume 7, No. 12.

KONOWALOWA, R. A.

"Sur les alcaloides des connelicots sauvages. II. Alcaloides de Papaver floribundum."
R. A. Konowalowa, S. Jounoussow et A. P. Orekhov. (p. 1797)

SO: Journal of General Chemistry (Zhurnal Obshchei Khimii). 1937, Volume 7, No. 12.

Senecio alkaloids. Alkaloids of Senecio platyphyllus.
 R. A. Kuznetsov, A. P. (Icklov) and V. Tidel. *J. Gen. Chem.* (U.S.S.R.) 8, 273 87 (in English 287) (1958); cf. C. A. 52, 2589. — The mixt. of alkaloids obtained by C_2H_5Cl extr. of *Senecio platyphyllus* consists chiefly of seneciophylline, $C_{11}H_{15}NO_3$ (I), and platyphylline, $C_{11}H_{15}NO_3$ (II), and a small amt. of other alkaloids. I and II can be sepd. because of the greater sol. of II in EtOH. Both I and II contain 1 OH group, a tertiary N atom and an unsatd. bond, and neither has a MeO or a MeN group. I darkens when heated rapidly at 205° and m. 217-18°, $[\alpha]_D^{20} -128.04^\circ$; perchlorate, darkens about 220° and carbonizes about 245°; picrate, m. 182-3°; chloraurate, m. 162-3° (decompn.); chloroplatinate, darkens about 205° and carbonizes about 240°; methiodide, m. 231-2° (decompn.). II m. 124-5°, $[\alpha]_D^{20} -45.00^\circ$; perchlorate, darkens 210° and m. 222-3° (decompn.); picronate, m. 205-6°; chloraurate, m. 200-1° (decompn.); methiodide, m. 216-17°. When II is hydrolyzed by alc. KOH, it gives platynecic acid (III), $C_{11}H_{15}O_4$, m. 154-5°, $[\alpha]_D^{20} 37.9^\circ$, and platynecine (IV), $C_{11}H_{15}NO$, (C. A. 29, 7088); chloraurate m. 200-10° (decompn.). A mixed m. p. of III and senecionic acid shows that these compds. are not the same. Besides its monobenzoate (V), IV also forms a dibenzoate (VI) when it is heated with $BzCl$ in pyridine. VI is an oil whose *HCl* salt m. 228-30°. When IV is hydrogenated over Pt or Pd, it is unchanged, and when it is heated with strong H_2SO_4 , it forms anhydroplatynecine (VII), $C_{11}H_{13}ON$, $d_4^{20} 1.0015$, which probably contains a cyclic oxide linkage. VII is also formed by electrolytic reduction of IV. Attempts to dehydrate V fail, since P_2O_5 has no action and H_2SO_4

gives VII. V reacts with $SOCl_2$ to give monochloro-platynecine benzoate (VIII), m. 73-4°; picrate, m. 185-6°; *HCl* salt, m. 203-4°; *HI* salt, m. 176-7°; picronate, m. 198-9°. However, Zn or Mg in acid soln. have no effect on VIII, and Na and EtOH sapon. it to VII. When IV is treated with freshly prepd. $SOCl_2$ it gives mostly VII, but also 10-15% of platynecine dichloride (IX), IX m. 63-4°; *HCl* salt, m. 186-7°; picrate, m. 205-6°. When IX is treated with Na and EtOH, the Cl atoms are removed, and subsequent catalytic reduction of the product gives a satd. base $C_{11}H_{17}N$, b. 160-71°; picrate, m. 237-8° (decompn.); picronate, m. 152-3°; chloraurate, m. 190-200°. This base is identical with heliotridane obtained from heliotrine, lasiocarpine and tri-chodesmine. This shows the close relation between the alkaloids of *Senecio* and *Borraginaceae*. H. M. L.

KONCOVALOVA R. A.

"Etude des alcaloides du senecion. Communication IV." R. A. Konovalova et
A. P. Orechov. (p. 395)

SO: Journal of General Chemistry (Zhurnal Obshchei Khimii) 1958, Vol. 28, No. 5

KOROVALOVA, R. A.

"Etude des alcaloïdes des especes du senecor. Communication V." R. A. Korovalova
et A. P. Orechov. (p. 401)

SO: Journal of General Chemistry (Zhurnal Obshchei Khimii) 1958, Vol. 8, No. 5

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(11) (1000) reacts with $p\text{-Cl}_2\text{NC}_6\text{H}_4\text{COCl}$ in PhMe to give
p-chloroacetylphenyltropine, m. 126-7°. This on reduction
 with LiAlH_4 gave the amine, m. 104-5°, whose $\text{PhCH}_2\text{CO}_2\text{H}$
 salt, m. 110-12°, and HCl salt does not m. 250°. Heating
 salt, m. 110-12°, and $\text{PhCH}_2\text{CO}_2\text{H}$ (b.p. 78-80°) in an oil
 bath at 120-5° for 4.5 hrs., dissolving the ppt. in 4-6 ml.
 H_2O , washing with Et_2O , satg. with K_2CO_3 , and extg. with
 Et_2O yielded tropine phenylacetate; HCl salt, m. 108-200°.
 Tropine phenylacetate, m. 107-8° (pptd. from IV and
 tropine phenylacetate as above); HCl salt does not m. 250°.
 $\text{PhCH}_2\text{CO}_2\text{H}$ (XI), m. 101-4°, was obtained in 80%
 yield by stirring 10 g. of the acid with 35 g. SOCl_2 at 0°
 for 2 hrs. and pptg. with 50 ml. of dry Et_2O . Condensa-
 tion of 5 g. IV with 10 g. XI in 50 ml. PhMe at 120-40° for
 2 hrs. and neutralization of the ppt. in a little H_2O with
 5% NaOH afforded 10 g. of butylaminobenzoate of
 tropine, m. 82-83° (Et_2O); HCl salt, does not m. 270°.
 In a similar manner was obtained butylaminobenzoate of
 arecolatropine, m. 100-11°; HCl salt, does not m. 270°.
 III with XI in CHCl_3 , treated as above, and pptd. with
 Et_2O , formed butylaminobenzoate of *N*- α -hydroxyethyl-
 tropine, m. 65-8°; HCl salt, m. 140-61°. The anes-
 thetic potency (duration) and toxicity (tested on white
 rats) of the HCl and $\text{PhCH}_2\text{CO}_2\text{H}$ salts of the prepd.
 compounds in various concns. are tabulated and discussed in
 relation to their chem. constitution. Nearly all of these
 compounds are capable of producing local anesthesia of vary-
 ing degree and duration. The attachment of radicals to
 the N in the I mol. (II, VI, VII) reduces its toxic and anes-
 thetic potency. The introduction of NH_2 groups into the
 H_2 residue (e.g., IX) increases both the anesthetic and toxic
 action. Acetylation of the NH_2 group reduces the tox-
 icity and anesthetic effect. The compounds with a free OH

group (VI) and those without an ester group are practically
 nontoxic and have no anesthetic action. The introduction
 of the phenylurethan group lowers the toxicity, while that
 of *p*-fluorophenyl group into the NH_2 group increases
 considerably the anesthetic and toxic effects. The X
 derivatives are less toxic than the corresponding IV deriva-
 tives, are equal in their anesthetic potency. The salts formed
 with $\text{PhCH}_2\text{CO}_2\text{H}$ produce greater anesthetic action than
 the corresponding HCl salts. The introduction of a double
 bond (V) in the mol. of I reduces both the toxicity and
 anesthetic effect. Tentative clinical tests in the ophthal-
 mic practice showed that some of these products can be
 used instead of cocaine and related com. anesthetics. I,
 II and VII produced prolonged anesthesia but caused
 hyperemia and lacrimation. The investigation is being
 continued.

Chas. Blum

1ST AND 2ND COLUMNS		3RD AND 4TH COLUMNS	
<p>BC</p>		<p>17-3</p>	
<p>PROPERTIES AND PROPERTIES INDEX</p>			
<p>Alkaloids of <i>Rosmaria refracta</i>, D.C. III. Alkaloids of plants of the Papaveraceae family. R. A. Kozlovskaya, S. Juresov, and A. P. Ozerkov (Sov. Gen. Chem. Rev., 1939, 9, 1336-1364).—The plant contains <i>L</i>-ephedrine, <i>d</i>-ephedrine, and rosmarinine, $C_{15}H_{19}O_3N$, m.p. 101–102.5° (hydro- chloride, m.p. 262–263°; picrate, m.p. 195–196°), the methiodide, m.p. 215–216°, of which gives (by the Hofmann degradation) <i>de</i>-N-methylrosmarinine, m.p. 73–74°; the methiodide, m.p. 274–275°, of this, heated with KOH-EtOH, gives a product, $C_{15}H_{19}O_3$, m.p. 86–87°. This is oxidized (KMnO₄) to an acid, $C_{15}H_{19}O_4$, m.p. 264°, which, when heated with Cu-Cr₂O₃, yields CO₂ and a methylphenanthrene. Methylphenanthrene, m.p. 64–65° (picrate, m.p. 167–168°; Br₂-deriv- ative, m.p. 196–197°). Rosmarine (annexed struc- ture) yield phenanthrene when distilled with Zn dust. R. T.</p>			
<p>ASB-51A METALLURGICAL LITERATURE CLASSIFICATION</p>			
<p>FROM HOWARD</p>			

Aldoloids of papaveraceae plants. IV. Aldaloids of
***Romeria refracta* D. C. Constitution of romerine and**
synthesis of 2,3-methylenedioxyphenanthrene. R. A.
Konovskaya, S. Yunusov and A. P. Orekhov. *Bull.*
***soy. khim.* 6, 1478-85; *J. Gen. Chem.* (U. S. S. R.) 9,**
1507-11 (1939); cf. C. A. 33, 6323¹.—Hofmann
degradation of romerine (I) led to the formation of a methy-
lenedioxyphenanthrene (II) of unknown constitution.
The synthesis of 2,3-methylenedioxyphenanthrene (III) was
undertaken from *n*-nitroperonal (IV). A mixt. of 20 g.
of IV (dried at 65-70° and 12 mm.), 16.5 g. of dry PbCl_2 ,
 $\text{C}_6\text{H}_5\text{Na}$, and 100 cc. of Ac_2O was heated at 100° for 24 hrs.,
distd. *in vacuo*, dild. with 200 cc. H_2O and extd. with 700 cc.
of ether. The ext. was shaken out with 400 cc. of 10% NaOH ,
acidulated with 30% HCl and extd. with ether,
yielding 73% (26 g.) of *o*-phenyl-6-nitro-3,4-methylene-
dioxybenzoic acid, $\text{C}_{16}\text{H}_{11}\text{NO}_5$, m. 190-200°, reduced by
 NH_4FeSO_4 to the corresponding 6-amino deriv. (V), m.
267-8°. V (17.4 g.) in 1 l. of 70% alc. was diazotized at
0° by addn. of 200 cc. of 10% H_2SO_4 and 6 g. NaNO_2 in
25 cc. H_2O . After stirring for 30 min. at room temp.,
35 g. of Cu powder was added. The mixt. was stirred
for 2 hrs., filtered the next day, concd. *in vacuo*, crystd.
out and extd. with AcOEt , producing 13.4 g. of long,
fine needles of 2,3-methylenedioxyphenanthrene-9-carboxylic
acid (VI), $\text{C}_{15}\text{H}_9\text{O}_4$, m. 235-6°. A mixt. of 1 g. VI and
3 g. of Cu chromite catalyst in 10 cc. quinoline was
boiled for 1 hr. until the evolution of CO_2 ceased com-
pletely. The cooled mixt. was dild. with 150 cc. ether
and filtered. The filtrate and washings were washed
with 10% HCl , 6% NaOH and H_2O . Concn. and recrystn.
from alc. gave 0.7 g. of column tablets of III, $\text{C}_{15}\text{H}_9\text{O}_4$.

m. 90-100° (mixed m. p. with II, 50°); *para*, m. 119-120°; *di-Br* deriv., m. 224-5°. The CH_3 group was hydrolyzed by heating 3 g. III with 8 g. phenylmagnesium and 40 cc. HCl (d. 1.18) in sealed tubes for 5 hrs. at 140-150°. The product was dild. with 40 cc. H_2O , alkalinized with 25% NaOH and extd. with ether. The cleavage product was methylated by CH_3Na in ether (from 17 g. $\text{MeN}(\text{NO})\text{CO}_2\text{Et}$) and crystd. from alc., yielding 2,3-dimethylthoxyphenanthrene, m. 130-1° (*di-Br* deriv., m. 150-60°), and establishing the structure of III. The non-identity of II and III excludes the positions 2,3 and 6,7 for the CH_3 group in the mol. of I and leaves open the choice between the positions 1,2, 3,4 and 5,6. The seed mother liquors from the sepn. of the HCl salt of I from 70 kg. of *R. refrada*, were alkalinized by 40% NaOH and thoroughly extd. with petr. ether, yielding 12 g. of *d*-pseudophephrine (VII), m. 118-19°, $[\alpha]_D^{25} 55.65^\circ$ (HCl salt, m. 182-3°), and 30.5 g. of an oil which, on treatment with alc. (CO_2H), gave 12.3 g. of *l*-ephedrine oxalate, m. 239-40°, yielding *l*-ephedrine (VIII), m. 38-9°; HCl salt, m. 310-17°, $[\alpha]_D^{25} -34.4^\circ$. Further working

up of the mother liquors gave final total yields of 16.3 g. VII and 11.2 g. VIII (0.024 and 0.010% of plant wt.). VIII is widely distributed and has previously been reported from *Ephedra*, *Taxus baccata*, *Sida cordifolia*, *Cassia edulis* and *Aconitum napellus*, of the Gentianeae, *Taxaceae*, *Malvaceae*, *Clavaceae* and *Ranunculaceae*, resp. This is the 1st report of the occurrence of VIII in the Papaveraceae. C. R. Addinall

C. R. Addinall

Alkaloids of the family Papaveraceae V Alkaloids of Roemeria refracta. D. C. The structure of *roemeriine*. S. Yumover, B. A. Kuzovalova and A. P. Orskhov. J. Chem. Soc., London, 1968, 70(1439); Bull. soc. chim. T. U. S. S. R. 9, 1968 70(1439); C. A. 34, 70-71 (1949); cf. Konovolova, et al., C. A. 34, 2652^a.—Previously it was shown that *roemeriine* (I) is a dimethylendioxysporphine with the formula $C_{18}H_{18}(NMe)_2$, methylendioxy-sporphine (*I*). Of the 5 theoretically possible arrangements of the CH_3O_2 group in I the 2,3- and 6,7-arrangements were excluded, because the product of the Hofmann degradation of I proved to be different from the main degradation of I proved to be different from the synthetic 2,3-methylenedioxyphenanthrene (cf. loc. cit.). Continuing the study of the I structure, it was determined that *roemeriine* (II), m.p. 162–4°. II, named to form a dihydrosporphone (III), is different from apomorphine (3,4-dihydro-norremierine (III)), is different from apomorphine (3,4-dihydro-norremierine (III)). In I could not be in the 3,4-II position. Thus the possible arrangement of the CH_3O_2 groups in I was reduced to the 1,2- or 5,6-position. III with CH_3NH_2 was reduced to the 1,2- or 5,6-position. III with CH_3NH_2 was reduced to the 1,2- or 5,6-position. IV, m.p. 165–6°, [α]_D = +15.2°. It differs from the amorphous dimethylapomorphine (cf. Knorr and Raube, C. A. 2, 3345). Hofmann degradation of IV yielded dimethoxy-3-

cindaphenanthrene (VI), m. 86-7°. Oxidation of V in Me₂C=O with K₂MnO₄ gave *dimechylphenanthrene-3-carboxylic acid*, m. 212-13°, converted by heating with Ca-hydroxide catalyst in quinoline to *5,6-dimethylphenanthrene-3-carboxylic acid* (VII), m. 43-4°; di-Bz deriv., m. 124-5°. *methylmorphole* (VIII). It is identical with VI obtained *syngetically*, m. 105-6°. It is identical with VII obtained *syngetically* by Pechori (Ber. 33, 1810 (1901)) and by theoretically by Pechori (cf. Barger, C. 1, 12, 1158), a methylation product of morphole. VI could be derived only decomposition product of morphole. Since III is not identical with apo from 3,4- or 5,6-II. Since III has the HO groups in III are in the morphine, it follows that the HO groups in III are in the 5,6-position and therefore I is *5,6-methylenedioxyapo-*. The Hofmann dehydration of IV and its methyl derivative with KOH in MeOH proceeds abnormally with the liberation of some NMe₃ and formation of V and *dimechyl-N-methylmorpherone*, a semiquinal base, b.p. 133-5°. V, VI. Alkaloids of *Glaucium ambriligerum*. R. A. Kononova, S. Yunosov and A. P. Orlovsk. Izv. 1949, 40. -Ethin. of 6 g. of dry, powd. G. *ambulligerum* (gathered in summer in Tashkent) with CHCl₃ contg. a little ether in summer in Tashkent) of mixed alkaloids, contg. NiHClO₄ gave 47 g. (87.7%) of mixed alkaloids, contg. *protopine*, *corydine*, *allocryptopine*, *xederyphine* and *sanguinarine*. The 1st 3 alkaloids are present in the green parts of the plant and the remaining 2 alkaloids in the roots. The usual methods of isolation and identification of the alkaloids are described in detail. Chas. Blane.

Chas. Mann

KONOVALOVA, P. A.

600

1. KONOVALOVA, R. A., YUNUSOV, S., OREKHOV, A. P.

2. USSR (600)

"On Alkaloids of Plants of the Family Papaveraceae. VI. The Alkaloids of the Glaucium Gimbrilligerum", Zhur. Obshch. Khim., 9, No. 21, 1939. Alkaloid Dept. All-Union Sci.-Res. Chemico-Pharmaceutical Inst. ~~imeni~~ S. Ordzhonikidze. Received 4 Jun 1939.

9. ~~Report~~ Report U-1626, 11 Jan 1952.

PROCESS AND PROPERTIES INDEX	
CA	10
<p>Alkaloids of <i>Fritillaria sewerzowii</i>. S. Yunusov, R. A. Konyalova and A. P. Orekhov. <i>J. Gen. Chem.</i> (U. S. S. R.) 9, 1911-14 (1939).—Estrn. with C_2H_5Cl of 100 g. of dry, powdered <i>Fritillaria sewerzowii</i> (<i>Korolkovia sewerzowii</i>), family Liliaceae (gathered in August in Central Asia) gave 0.25 g. (0.025%) of crude base which by a complex process of reworking yielded a new alkaloid, named <i>alginine</i>, $C_{14}H_{15}NO_3$, m. 271-2°, $[\alpha]_D^{20} 108.5^\circ$; <i>HCl</i> salt, m. 328-8°; <i>MeI</i> deriv., m. 310-11°. It contains 3 OH groups with a tertiary N and probably has the formula $C_{14}H_{15}(N)(OH)_3$. The investigation is being continued. Chav. Blanc</p>	
<p>ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION</p>	

KONOTALOVA, R. A., OREKHOV, A. P.

"On the Alkaloids Aconitum Talassicum--I. On the Alkaloid Forms Aconitum" Khur.
Obshch. Khim. 10 No. 8, 1940, Alkaloid Dept. All-Union Chemico-Pharmaceutical Inst.
Imeni S. Ordzhonikidze, Received 25, Oct. 1939.

Report U-1627, 11 Jan. 52

Alkaloids of the family Papaveraceae. VII. Alkaloids of *Papaver armeniacum*. The structure of *armepavine*. S. Yumusov, R. A. Kononakova and A. P. Orekhov. *J. Gen. Chem.* (U. S. S. R.) 10, 641-8 (1940); cf. *C. A.* 34, 4072¹.—*Armepavine* (I), previously isolated from *Papaver armeniacum* and *Papaver floribundum* (*C. A.* 30, 1380²), yields on methylation with CH_3N_3 in MeOH and ether methyl-I (II), m. 63-4°, $\alpha_D^{20} -84.48^\circ$ (in CHCl_3), the methiodide (III) of which m. 135.6°. II on boiling with Ac_2O followed by energetic oxidation with HNO_3 (d. 1.4) gives anisic acid. Heating of III with KOH and MeOH gives inactive *des-O,N*-dimethylarmepavine (IV), m. 86-7°; IV-HCl, m. 229-30°; IV-Mel (V), m. 233-4°. On heating V with KOH and MeOH, Me_2N is split off with the formation of a compd. $\text{C}_{11}\text{H}_{10}\text{O}_2$ (VI), m. 79-9.5°. Oxidation of VI by means of KMnO_4 in acetone yields anisic acid and 4,6-dimethoxyphthalic acid. This shows that VI is 4,5,4'-trimethoxy-2-vinylstilbene and II is 6,7-dimethoxy-1-(4-methoxybenzyl)-2-methyl-1,2,3,4-tetrahydroisoquinoline. Ethylation of I with Et_2SO_4 and NaOH gives *diethyl-des-armepavine* [dimethoxyethoxy-2-(β -ethylmethylaminoethyl)stilbene] as a thick oil, which on

oxidation with KMnO_4 in acetone yields *p*-ethoxybenzoic acid. This result proves that I is 6,7-dimethoxy-1-(β -hydroxybenzyl)-1-methyl-1,2,3,4-tetrahydroisoquinoline which conclusion is further substantiated by the oxidation of I with KMnO_4 in acetone whereby 6,7-dimethoxy-1-hydro-2-methyl-1,2,3,4-tetrahydroisoquinoline, m. 124.5°, is obtained. Gertrude Herend

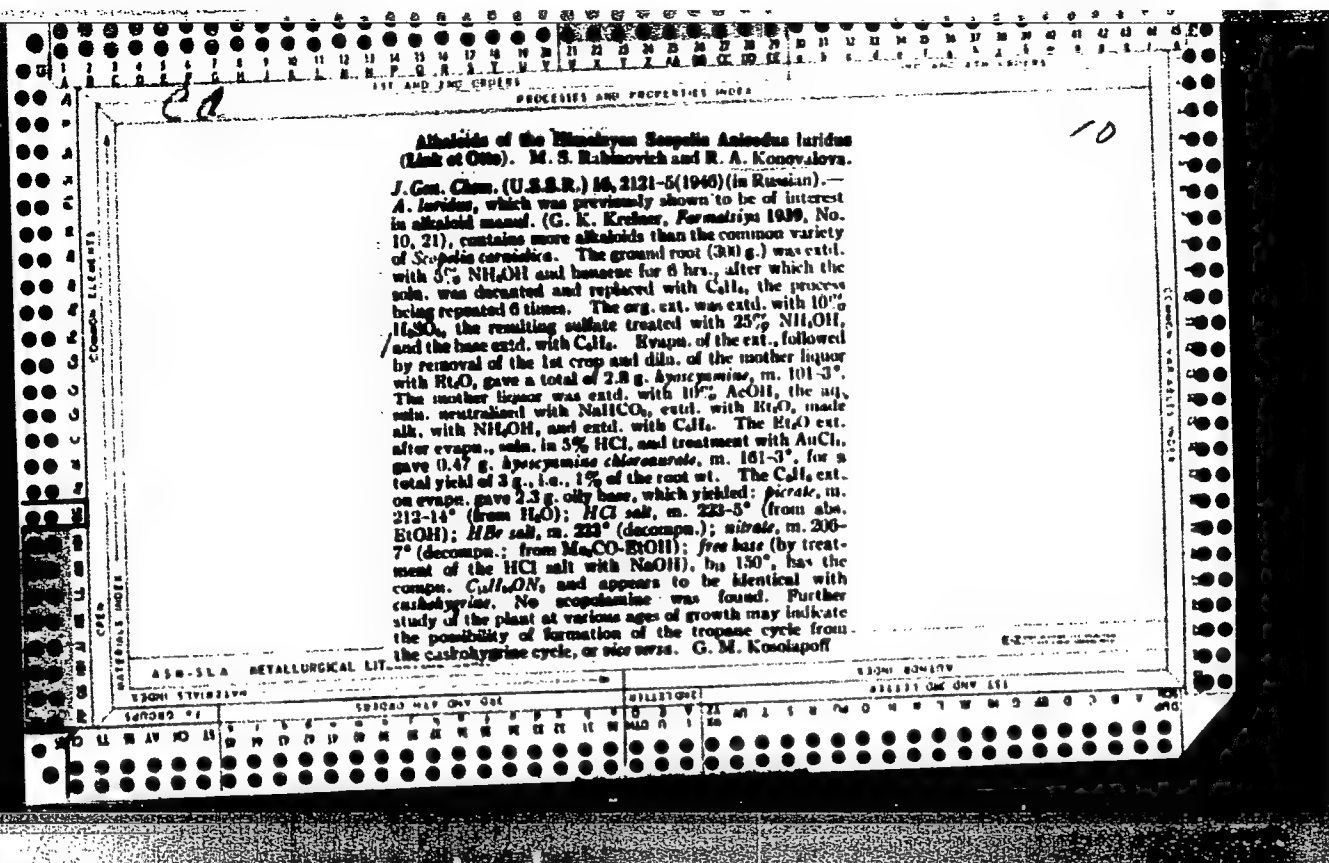
1ST AND 2ND COLUMNS																										3RD AND 4TH COLUMNS																									
PROCEDURES AND PROPERTIES INDEX																																																			
<div style="display: flex; justify-content: space-between;"> BC P-3 </div> <p>Dolichium alkaloids. I. Dolichamine from Dolichium sp. M. J. Krasnowska and R. A. Krasnowska (J. Gen. Chem. Russ., 1946, 18, 581-585). — Dolichamine sp. has yielded a new alkaloid, dolichamine, $C_{24}H_{34}O_4N$, which is probably related to certain aconite alkaloids; its structure indicates the partial structure, $C_{24}H_{34}O_4N$ (Mol. Wt. 406). A table is included which gives a summary of all the known facts about dolichamine alkaloids and literature.</p> <p>Dolichamine (I), m.p. 135-136°C, $[\alpha]_D^{25} +30.5^\circ$, is sparingly sol. in Et_2O, $CHCl_3$, $MeOH$, and H_2O, easily sol. in $EtOH$, and very sol. in CH_2Cl_2. It gives a crystalline salt, $C_{24}H_{34}O_4N \cdot HCl$, m.p. 150-151°C, $[\alpha]_D^{25} +37.5^\circ$, easily sol. in H_2O, less sol. in $EtOH$, and easily sol. in H_2O, less sol. in $EtOH$. With MeI it gives a methiodide, $C_{24}H_{34}O_4N \cdot MeI$, m.p. 150°C (decolor.), easily sol. in H_2O and $EtOH$. (I) is unreactive by heating $MeOH$-KOH; with $KMnO_4$ oxidation gives $MeCHO$; acetylation under normal conditions gives an acetylated mixture but Ac_2O-C_2H_5Mg gives a Ac derivative ($C_{24}H_{34}O_4N \cdot Ac$, m.p. 116-117°C, $[\alpha]_D^{25} +30.5^\circ$, easily sol. in Et_2O and other dry solvents except light petroleum). (I) is obtained from the dried plant by extraction with CH_2Cl_2 in presence of 5% Na_2CO_3. The solution is shaken with dil. H_2SO_4, the acid extract acid alkaline with NH_3, and the total alkaloids (1% of original dry wt.) extracted with $CHCl_3$. After evaporation the residue is treated with $COMe$, in which (I) is insol., giving the crude base, 0.34% of the original wt. Pure (I) is obtained from the crude base via the tartrate and the pyridine salt.</p> <p style="text-align: right;">G. S. S.</p>																																																			
<div style="display: flex; justify-content: space-between;"> <div> <p>ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION</p> <p>SECTION SYMBOLS</p> <p>SECTION MAP ONLY ONE</p> </div> <div> <p>SECTION ONE</p> <p>SECTION ONE ONLY LIST</p> </div> </div>																																																			

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PROCESSES AND PROPERTIES INDEX																			
<p>CA</p> <p>17</p> <p>Separation of platyphyllyne from seneciophyllyne. R. A. Kozlovskaya. U.S.S.R. 65,706, Jan. 31, 1946. Platyphyllyne is pptd. from a mixt. with seneciophyllyne by heating with an alc. soln. of tartaric acid. M. Hosh</p>																			
<p>ASS-SSA METALLURGICAL LITERATURE CLASSIFICATION</p>																			
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<p>CA</p> <p><i>p</i>-Aminobenzoyl tropine tartrate: R. A. Kononova and M. S. Rabinovich. U.S.S.R. 65,877, Feb. 24, 1946. The reaction product of tropine and <i>p</i>-nitrobenzoyl chloride is reduced to the corresponding amino deriv. An alc. soln. of the latter is mixed with an alc. soln. of tartaric acid and the pptd. tartrate is sepd. out. This salt, referred to as Convocalin, is suitable as a local anesthetic and as a vasoconstrictor. M. Hosh</p>																			
<p>ASB-11A METALLURGICAL LITERATURE CLASSIFICATION</p>																			
<p>ISSUE 11/19/54</p>										<p>ISSUE 11/19/54</p>									

1ST AND 2ND ORDERS												3RD AND 4TH ORDERS											
PROCESSING AND PROPERTIES INDEX																							
<p>CA</p> <p>Separation of anabasine from its aqueous solution. R. A. Kosobolova and M. S. Rabinovich. U.S.S.R. 66,342; May 31, 1946. Aq. ext. of <i>Anabasis aphylla</i>.</p> <p>is made alk. and treated with activated clay. The mixt. is filtered and the clay is treated with dil. H_2SO_4. From its acid soln. anabasine or its salt is recovered by known means. The adsorbent is regenerated by treatment with steam.</p> <p>M. Hosh</p>												<p>17</p>											
<p>ASB-LLA METALLURGICAL LITERATURE CLASSIFICATION</p>												<p>ESTABLISHED</p>											
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<p>Preparation of cytoline from an aqueous extract of the seeds of <i>Thermopsis lanceolata</i>. R. A. Kozlovskiy and A. A. Kuznetsov. U.S.S.R. 60,304, Aug. 31, 1947. The seeds are extd. with H_2O and the ext. is treated with adsorbent, e.g., activated clay or silica gel. The alkaloids are desorbed with a soln. of NH_3 in $CHCl_3$. $CHCl_3$ is driven off next, and in the thus obtained cryst. mixt., cytoline is isolated with Me_2CO. M. Hosh</p>																									
<p>AS 65.4 METALLURGICAL LITERATURE CLASSIFICATION</p>																									
<p>1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100</p>																									

CA

10

Platyphylline. R. A. Kononov. U.S.S.R. 60,281, Dec. 31, 1947. *Senecio platyphyllus* contains platyphylline, seneciophylline, and genplatyphylline. To increase the yield of platyphylline from the plant material, an acid-aq. soln. of the combined alkaloids is treated with Zn dust or other reducing agents, followed by alkalization of the soln. and purification by the usual means. M. Hosh

KONOVALOVA, R. A.

PROCESSES AND PROPERTIES INDEX

Alkaloids of wild species of the poppy. VIII. Alkaloids of *Papaver bracteatum* V. V. Kiselev and R. A. Konovalova. *J. Gen. Chem. (U.S.S.R.)* 18, 142-60 (1948) (in Russian); cf. *C. A.* 34, 7917. —From *P. bracteatum* were isolated 4 phenolic bases: isothebaine, oripavine, bractamine, $C_{20}H_{21}NMe_2O$, and bractamine, $C_{20}H_{21}NMe_2O$. Air-dried superterranean parts of the plant (5 kg.) were extracted by 12% NH_4OH and extd. with $CHCl_3$ (ext. A). The $CHCl_3$ extd. by 5% H_2SO_4 , and the latter neutralized to weak Congo red reaction with 49% $NaOH$, then made alk. with concd. NH_4OH and extd. with Et_2O (ext. A) and $CHCl_3$ (ext. B). Ext. A was concd. to 500 ml., treated twice with 25 ml. 10% $NaOH$ (alk. ext. C) and 25 ml. H_2O , the aq. soln. added to the alk. soln., and the Et_2O distd., giving a total of 1.75 g. isothebaine. The alk. ext. C with excess NH_4Cl gave a white ppt., most of which dissolved in Et_2O (ext. D), and the residue was dissolved in $CHCl_3$ (ext. E). Evapn. of ext. D gave 2.1 g. oily resin, which solidified on grinding, and on crystn. from hot $EtOH$ gave 0.3 g. isothebaine, m. 199° , while the mother liquor gave, on crystn. from $EtOH$, 0.15 g. oripavine, decomp. $195-6^\circ$. Evapn. of the solvent from ext. E gave 1.9 g. resin, which with 3 ml. 10% HCl and 7 ml. H_2O gave 0.2 g. colorless solid F, while the acid soln. was washed with $CHCl_3$ (ext. G), made alk. with NH_4OH , and extd. with Et_2O , the latter giving 0.01 g. crude oripavine, m. 201° . Ext. G on evapn. gave 0.1 g. isothebaine, m. $196-8^\circ$, while solid F, was ground with

MATERIALS INDEX

A S H - C L A METALLURGICAL LITERATURE CLASSIFICATION

REGNI SYMBOL

SECOND #4

(SHEG) MAP. GNY. GAC

REVISION

13000

REVISION

$NaOH$, acids, Et_2O , difficultly sol. in petr. ether, sol. in hot

KONOVALOVA, R. A.

PA 8/49T58

USSR/Chemistry - Alkaloids, in Plants
Chemistry - Opium Alkaloids

May 48

"Alkaloids in the Plants of the Papaveraceae Family,
IX," R. A. Konvalova, V. V. Kiselov, Alkaloidal
Sec, Inst of Phar, Toxicol and Chemotherapy, 4 pp

"Zhur Obshch Khim" Vol XVIII (LXXX), No 5, p. 855

Devoted to oripavine. When it is methylated with
diazomethane, thebaine is produced. When it is
heated with dilute hydrochloric acid, a new phenol
base, similar to thebaine, is obtained. Consti-
tutional formulas included. Submitted 25 Oct 1946.

8/49T58

KONOVALOVA, R.

Konovalova, P. and Danilova, A., Investigation of alkaloides of the type *sepecio*.
VI. About the structure of seneciphyllin, p. 1198
Zhur. Obshchei Khimii, 1948, Vol. 18, No. 6.

Seneci-phyllin adds 4 atoms of hydrogen during catalytic hydrogenation and gives an amino acid - seneciphyllin ether of retro necanole. Seneciphyllin is a cyclic di ether of retro necine with a molecule of di basic seneci-phyllinic acid.

The Alkaloid Dept. of the Ordzhonikidze All Union Scientific Research Chemical-
Pharmaceutical Institute . Moscow
April 21, 1947

KONOVALOVA, P. A.

Rabinovich, M. S. and Konovalova, P. A., On alkaloids from *Dipsacus Azureus* Schrenk.
p. 1510.

From *dipsacus azureus* is evolved a crystalline alkaloid of composition $C_{10}H_9O_2N$
of a non-saturated character containing a lactonic grouping. Dehydroderivative $C_{10}H_{11}O_2N$
is obtained and during oxydation $C_9H_7O_4N$ acid is evolved.

The Orzhonikidze All Union Sci. Res.
Chemico-Pharmaceutical Inst. Lab.
of Chemistry of Alkaloids, Moscow.
April 12, 1947

SO: Journal of General Chemistry (USSR) 18, (80) No. '8 (1948)

KONOVALOVA, P. A.

Rabinovich, M. S. and Konovalova, P. A., On alkaloids from "Ipsacus Azureus Schrenk.
p. 1510.

From dipsacus azureus is evolved a crystalline alkaloid of composition $C_{10}H_9O_2N$
of a non-saturated character containing a lactonic grouping. Dehydroderivative $C_{10}H_{11}O_2N$
is obtained and during oxydation $C_9H_7O_4N$ acid is evolved.

The Orzhonikidze All Union Sci. Res.
Chemico-Pharmaceutical Inst. Lab.
of Chemistry of Alkaloids, Moscow.
April 12, 1947

SO: Journal of General Chemistry (USSR) 18, (80) No. '8 (1948)

Aconite alkaloids. IV. Delartine. M. S. Kabanovskiy and R. A. Kononova. *Zhur. Obshchei Khim.* (J. Gen. Chem.) 19, 1387-95 (1949); cf. *C.A.* 34, 5158; 37, 3718.
 —Extn. of 10 kg. *Delphinium* sp. (from Kyz-art in Trans-shen region) with $(CH_2Cl)_2$ and 5% NH_4OH and the usual treatment with dil. H_2SO_4 , followed by extn. of the crude alkaloids with Et_2O , then with $CHCl_3$, gave 41 g. alkalo-
 ids from the Et_2O ext. and 11 g. from the $CHCl_3$ ext. The former could not be crystal., but addn. of $NaClO_4$ soln. to its soln. in 5% HCl gave a viscous perchlorate, which after rubbing with $EtOH$ and H_2O gave pure *delar-
 tine* perchlorate, needles, m. 198-90° (from dil. $EtOH$), contg. 1.54 H₂O; the *free alkaloid*, m. 110-30° (from Et_2O), b.p. 15.1° ($EtOH$), has the compn. $C_{16}H_{19}N_3O_2$ (?) and is amorphous. Boiling with 10% alc. KOH gave the amino alc., *Calladine*, glassy solid, m. 142-5° (from $CHCl_3$), forms a *monohydrate*, needles, m. 110-15° (from dil. $EtOH$), b.p. 31.3°; its *HBr* salt, needles, m. 167-0° (decompn.) when anhyd., or m. 80-01° (before vacuum drying to const. wt.); the *HCl* salt, powder, decomp. 80° (from abs. $EtOH-Et_2O$), or m. 150-02° when dried to const. wt.; *perchlorate*, m. 87-90° (from $EtOH-Et_2O$); *HCl* salt, decomp. 174-6° (from $Me_2CO-EtOH$), after drying at 120°. Heating to 100° in a sealed tube with $MeI-MeOH$ yields merely the *HCl* salt of the amino alc. Oxidation of the amino alc. with $KMnO_4-H_2SO_4$ gave AcH , while reduction over Pt does not take place. The aqu-
 filtrate after the isolation of the amino alc. gave on acidi-
 fication by HCl *delartine acid*, m. 100-4° (decompn.; from $Et_2O-EtOAc$), which on hydrolysis with 10% HCl gave anthranilic acid and a new acid, m. 170-2° (after sublimation in *vacuo*), which is not identified. The behavior of the amino alc. from *delartine* suggests its identity with the *licoramine* of Schulze and Bierling (*C.A.* 7, 2052). The $CHCl_3$ ext. of the alkaloid mass upon soln. in 5% HCl , washing with org. solvents, and reprecip. and reextn. with Et_2O and $CHCl_3$, gave *delphamine*, m. 105-8° (from $EtOH-Et_2O$); *tartrate*, m. 157-01° (from $EtOH$); *chlorosulfate*, m. 171-2° (decompn.). The properties of *delphamine* suggest its identity with Gaudon's "alkaloid C" (*C.A.* 39, 3293). G. M. Kabanovskiy

KONOVALOVA, R. A.

58/49T15

USER/Chemistry - Alkaloids
Chemistry - Isothebaine

Jan 49

"Alkaloid Plants of the Papaveraceae Family: I,
Structure of Isothebaine," V. V. Kiselev, R. A.
Konovalova, Alkaloid Dept, Inst of Pharmacol,
Toxicol, and Chemotherapy, 8 3/4 pp

"Zhur Obschch Knim" Vol XIX, No 1

Conclusions: (1) Methylation of isothebaine by
dimethylsulfate occurs under conditions set forth by
Pahor and Karo. (2) First stage of Hoffmann
degradation occurs abnormally through splitting
off of trimethylamine. Previous explanations for

58/49T15

USER/Chemistry - Alkaloids (Contd)

Jan 49

the arrangement of substituents in isothebaine were
shown incorrect. Presence of a phenanthrene
nucleus in isothebaine was confirmed by extraction
of mellophanic acid. Submitted 9 Dec 46.

58/49T15

CA

17

Adsorption method of isolation of anabasine. M. S. Rabinovich and R. A. Konevalova (S. Ordzhonikidze Chem. Pharm. Inst., Moscow). *Zber. Priklad. Khim.* (J. Applied Chem.) 23, 893-1001(1949).—Anabasine can be adsorbed from aq. media by numerous adsorbents, affording a sepn. from numerous materials that accompany the alkaloid in aq. exts. of *Anabasis aphylla*. The most active substances are silica gel, infusorial earth, gumbrin (Caucasian), and permi-Asiatic bentonite; kaolin is almost ineffective as is permutit. For removal of 80-85% of the base at least 15-20% (by wt.) bentonite is necessary; best results occur at pH 9. Temp. effect is slight (4-20° range) in 40-5-min. treatment. Desorption is best done by treatment with dil. H_2SO_4 . Desorption after 3 cycles with 2N H_2SO_4 can desorb 84% of which after 3 cycles with 2N H_2SO_4 can desorb 84% of the base giving a soln. contg. up to 6% of the alkaloid; the solns. acquire addnl. purification in this step, showing a considerable loss of color. Org. solvents are thus completely eliminated. Steam treatment with 40% NaOH gives 100% desorption but the solns. are extremely dil. (0.23-0.3%), as are exts. with steam and acid solns. The acid method of desorption is satisfactory at 2:1 ratio of the aq. acid to the amt. of the adsorbent. G. M. Kosolapoff

1951

KONOVALOVA, R. A.

PA 52/ACT58

USSR/Medicine - Gentianin
Medicine - Chemistry, Physical

May 49

"Gentiana Kirilowi Alkaloids," M. F. Proskurnina, V. V. Shpanov, R.A. Konovalova,
All-Union Sci Res Physicophar Inst imeni S. Ordzhonikidze, 2 pp

"Dok Ak Nauk SSSR" Vol LXVI, No 3

Structural formula of gentianin was established by oxidation with permanganate, entailing formation of isonicotinic acid. It was found to contain a vinyl group. Because of its structure it differs from well-known alkaloids of related substances. Submitted by Acad A. N. Nesmeyanov, 14 Mar 49.

C A

10

Alkaloids of *Senecio* species. VII. Alkaloids from *Senecio renardi*. A. V. Danilova and R. A. Komolova (S. G. Khimikatsk. All-Union Chem. Pharm. Inst., Moscow; *Zhur. Obshch. Khim.* (J. Gen. Chem.) 20, 1921 6 (1950), *C. A.* 32, 5409; 43, 1427g. Extn. of *S. renardi* leaves with (CHCl₃) in the presence of 10% NH₄OH gave upon exhn. of the crude products with Et₂O and evapn. a mixt. of alkaloids; exhn. with hot Me₂CO left behind *seneciphylline*, m. 212-14° (*picrolonate*, m. 176-7°), while cooling the ext. gave *renardine*, C₁₇H₂₁O₅N, m. 192-3° (from EtOH), [α]_D²⁰ -2.21° (CHCl₃); *picrate*, m. 219-20° (from EtOH); *hydroxide*, m. 197-7.5° (from EtOH); *methoxide*, decomp. 194.6°. A concn. of the Me₂CO mother liquid gave a small amt. of a base, m. 176-8° (from Me₂CO), whose constitution is unknown. Hydrolysis of renardine for 0.5 hr. with hot 0.5 N aq. NaOH gave an *acid*, m. 148-9°, which on heating with 10% HCl forms a *lactone*, m. 154-5°, identical with *senecioic acid*; the other cleavage product is an *amino alk.* which could not be adequately identified. Renardine has a methylimide group and gives a pos. pyrrole test. Extn. of the residue of the alkaloids, after the initial Et₂O exhn., with CHCl₃ and re-exhn. with Me₂CO gives more renardine and insol. *othosanine*, C₁₇H₂₁O₅N, m. 218-10°, [α]_D²⁰ 14.3° (CHCl₃); *picrate*, decomp. 211-2°; this base heated 0.5 hr. with 3% aq. NaOH yields a tarry amino alk. and *senecioic acid*, m. 180-1°. Othosanine was obtained for identification by exhn. from roots of *S. othoniae* with (CHCl₃) in the presence of NH₄OH. G. M. Komolpoff.

CA

70

Structure of platynecinic and seneciolic acids. A. V. Pandova and R. A. Koryakova (S. Otdel'noykh Akad. Union Chem. Pharm. Inst., Moscow). *Doklady Akad. Nauk S.S.S.R.* 73, 315-17 (1950).—Alc. alk. hydrolysis of platyphylline yields an unsat. acid, $C_{11}H_{16}O_4$, m. 151-2°, identical with the seneciolic acid (I) from the hydrolysis of seneciimine (C.A. 31, 8055); an aq. medium in the hydrolysis yields, however, a more sat. acid, having same compn. but m. 133-5°, named *platynecinic acid* (II). On heating with 10% HCl, both acids yield a lactone acid (III), $C_{11}H_{16}O_4$, m. 155-6°, $[\alpha]_D^{20}$ 43°, mere heating above the m.p.

with alkali yields only I. Both acids take up 2 H, yielding a *dihydro deriv.*, which heated with 10% HCl gives the corresponding lactone, m. 133-4°, identical with the reduction product from III. Hence, II appears to be a *cis* and I a *trans* isomer of same structure. Bromination of III in $CHCl_3$ gave the *di-hydro deriv.*, m. 162-3°, $[\alpha]_D^{20}$ -64.8°, while in an aq. medium it gave a *mono-hydro deriv.*, m. 113-13.5°.

$[\alpha]_D^{20}$ -6.5°, probably by loss of HBr from the initial dibromide. Oxidation with $KMnO_4$ in Me_2CO and with HNO_3 gave $AcOH$, $(CO_2H)_2$, and 2 isomers of an acid, $C_{11}H_{16}O_4$, one of which, abmp. $[\alpha]_D^{20}$ 7.1°, yields a *diamide*, m. 104-5°, while the 2nd acid, m. 98-100°, $[\alpha]_D^{20}$ -30.6°, was characterized as a poorly sol. Ag salt; both have 2 acid and 1 OH groups, and do not lactonize; neither is an α -HO acid (no reaction typical of the class with PbO_2 in H_2PO_4); the pair are apparently diastereomeric α -methyl- β -hydroxyglutaric acid. Hence, the original acid pair may be represented by either of the formulas, $MeCH: C_1(OH)CH_2CH_2CHMeCH(OH)CH_2CO_2H$ or $MeCH: C_1CO_2HCH_2CH_2CH(OH)CHMeCO_2H$, both of which explain the above set of observations. The investigation is being continued to establish the correct formula. G. M. Kosolapoff

Chem A

10

Alkaloids of some species of the bean family. X. New alkaloids from *Piptanthus nanus* *piptanthine* and *piptanine*. R. A. Konyalova, B. S. Iskima, and M. S. Rabinovich (S. Otdel' Khim. All-Union Chem.-Pharm. Inst., Moscow). *Zhur. Obshch. Khim.* (J. Gen. Chem.) 21, 773-80 (1951); cf. C. 1 27, 3478; 29, 4767. Exhaustive extn. of the upper parts of *Piptanthus nanus* with CHCl_3 in the presence of 10% NH_4OH , treatment of the ext. with 10% H_2SO_4 , addn. of 25% NH_4OH to the acid ext., and extn. with Et_2O , then with HCl , gave on evapn. of the Et_2O ext. 43 g. alkaloids (from 8.5 kg. plant) and concn. of Et_2O ext. gave 180 g. crude alkaloids. Treatment of the Et_2O extn. residue with 10% H_2SO_4 , washing with CHCl_3 , addn. of NaHCO_3 to alk. litmus reaction, and exhaustive extn. with Et_2O , then with CHCl_3 , gave on evapn. of the Et_2O ext. 56 g. crude, or 23.1 g. *piptanthine* (I), m. 136-40°. Treatment of aq. soln. after Et_2O extn. (above) with 25% NH_4OH and extn. with Et_2O , evapn. of the latter, and addn. of Me_2CO gave 7.6 g. *piptanine* (II), m. 132-63°. Distn. of the residue from the above solid alkaloids gave *i*-sparteine, b. 143-55° (sparteine, m. 108-9°; methoxide, m. 201-6°; *di-HCl* salt, m. 255-7°); a higher-boiling fraction (b. 180-210°) on treatment with Me_2CO gave addnl. amts. of II. Pure I, m. 143.5-4.5° (from Me_2CO), is obtained through the nitrate, m. 205-6° (from aq. KOH). I is $\text{C}_{16}\text{H}_{25}\text{NO}_6$, $[\alpha]_D^{25}$ -24.3° (KOH); *di-HCl* salt (monohydrate),

decomp. 250°; *di-HBr* salt monohydrate, decomp. 280°. Heating I with MeI in EtOAc gives an *HI* salt, m. 238-9°, which with 25% NH_4OH yields a *N-Me* deriv. of I, m. 111-12° (from Me_2CO), nitrate, m. 157-8° (from EtOH). Heating I with AcO-pyridine on a steam bath gave an *N-Me* deriv. of I, m. 213-15° (from Me_2CO). I with 10% aq. NaNO_2 in dil. HCl gave a nitroso deriv., decomp. 95°. Pure II, m. 173-4°, has the same compn. as I, and in EtOH is optically inactive. *di-HCl* salt, decomp. 345°; *HBr* salt (*di-H*), decomp. 294°; treatment with MeI in hot EtOAc , followed by NH_4OH treatment, gave an *N-Me* deriv. of II, m. 93.5-7.5° (from Me_2CO) after purification through the nitrate. Heating II with AcO-pyridine 6 hrs. on a steam bath gave *N-Me* deriv., decomp. 92-6° (from Me_2CO). II in dil. HCl with NaNO_2 gave a poorly stable nitroso deriv. which could not be recrystd. II nitrate is readily sol. in Me_2CO , while I nitrate is poorly sol., thus affording a convenient sepn. I and II contain 1 secondary N atom. Possibly I and II may be the intermediates in the biosynthesis of sparteine in the plants. G. M. Kovalapoff

1957

CA

Alkaloids of some species of the bean family X New
alkaloids from *Piptadenia nana* - pipemine and pipamine
R. A. Konovalova, D. S. Diskina, and M. S. Rabunovich.
J. Chem. Soc. Perkin Trans. 1, 1953, 604 (1953) (Engl. transla-
tion) *Chem. Abstr.* 48, 10546.

KONOVALOVA, R. A.

184T14

USSR/Chemistry - Atropine Substitutes

11 Jun 51

"Alkaloids of Senecio Platyphyllus (Family Compositae): On the Isolation of Two New Alkaloids, N-Oxydo-Platyphyllin and N-Oxydo-Seneciphyllin," R. A. Konovalova, All-Union Sci Res Chemicopharm Institute S. Ordzhonikidze

"Dok Ak Nauk SSSR" Vol LXXVIII, No 5, pp 905-907

Continues investigation which resulted in isolation of platyphyllin and seneciphyllin, as described earlier by author and A. P. Orekhov (1938).

184T14

USSR/Chemistry - Alkaloids

21 Dec 51

"The Constitution of the Alkaloids Piptantine and Piptamine," B. S. Distine, R. A. Konovalova, All-Union Sci Res Chem-Phar Inst Imeni S. Ordzhonikidze

"Dok Ak Nauk SSSR" Vol LXXII, No 6, pp 1069-1072

The plant Piptanthus nanus was discovered in 1931 in Soviet Russia. In 1946 it was found to be rich in alkaloids (2.5% of dry wt). Among the alkaloids discovered in it were sparteine (I), piptantine (II), and piptamine (III). A previous article ("Dok Ak Nauk SSSR" Vol LXXVIII No 4, 1951) gives the constitution of the latter 2

219713

alkaloids. The connection between I and II has been established, and the constitution of II, N-methylpiptantine, nomopiptantine, and homooxypiptantine clarified.

KONOVALOVA, R.

219713

RABINOVICH, M. S. and KONOVALOVA, R. A.

"Anesthetizing Derivatives of Convoline and Convolamine," 1952.

U-1982, 22 May 52

Chem Abs
V.48 25 Jan 54

APPROVED FOR RELEASE: 06/19/2000

Organic

Alkaloids of the plants of Rapana and R. A. Kono-
valova (S. Ordzhonikidze MeUnion Chem. Pharm. Inst.
Moscow). Zhur. Obshch. Khim. 22, 2233-6 (1952); cl.
C.A. 43, 6207h. Oxidation of 3 g. isothebaine in H₂O with
21.9 g. KMnO₄ at room temp., then at 50-60° gave 1.91 g.
product, which yielded 0.3 g. 3-methoxyphthalic anhy-
dride, m. 161-162°. Oxidation. This heated with
PhNH₂ in MePh gave 3-methoxyphthalic acid, melting
with foaming 163° on rapid heating, m. 187-9°, indicating
heating; on remelting the product m. 187-9°. Oxidation of 4.35 g.
formation of 3-methoxyphthalic anhydride by 21.84 g. KMnO₄.
the Me ether of isothebaine methosulfate by 21.84 g. KMnO₄.
in 3-4% soln., as above, gave 0.22 g. 3-methoxyphthalic
anhydride and 0.68 g. product, m. 240-1°, on slow heating,
decomp. 175-80°, on rapid heating, remelting at 240-1°;
this substance C₁₀H₁₁O₄ is apparently 2,3,2'-trimethoxy-
5,6,6'-tricarboxyphenyl. Treatment of 4 g. corydine-HCl
salt with 12.8 ml. Me₂SO in 30% NaOH gave the Me
ether of corydine methosulfate, m. 247-8° (from EtOH).
which with aq. KI gave the methiodide of corydine, de-
comp., 248-9° (from EtOH). Oxidation of the metho-
sulfate with KMnO₄ as above gave an acid, C₁₀H₁₁O₄, ap-
parently 5,6,5',6'-tetramethoxyphenyl-2,3,3'-tricarboxylic
acid, m. about 125°, with foaming and immediate resolidifi-
cation and remelting at 220-30.5°; on slow heating the
material shrinks at 120-5° and m. 230-1°. The formation of 3-
methoxyphthalic acid from isothebaine shows the location
of the HO and MeO groups in the benzene ring of aporphine
skeleton (in the tetrahydroisquinoline fraction): 1 MeO in
the other benzene ring is in 1 or 4 position. In oxidation
with KMnO₄ of nonphenolic aporphine alkaloid: the benzene
ring in the tetrahydroisquinoline part of the structure is
less stable to oxidation in alk. medium than the other ben-
zene ring. (G. M. Kosolapoff)

The 1st picrate, m. 124-7° (from EtOH, then from EtOAc).
alkaloid, C₁₀H₁₁ON, named indicaine; the latter picrate (m.
127-9° after purification), gave an alkaloid named indic-
amine, C₁₀H₁₁ON, which is an unsatd. substance. Both
latter alkaloids are liquids. G. M. Kosolapoff

USSR/Chemistry - Alkaloids

Aug 53

"Investigation of Alkaloids of Senecio Species. VIII
Alkaloids from Groundsel (Senecio sarracenioides).
A. Danilova, R. Kononova, P. Massaguetov, and
M. Garina, All-Union Sci-Res Chemicopharm Inst im
S. Ordzhonikidze

Zhur Obshch Khim, Vol 23, No 8, pp 1417-1421

Isolated two new alkaloids, sarracine $C_{18}H_{27}O_5N$ and
sarracine N-oxide $C_{18}H_{27}O_6N$, from a groundsel
(Senecio sarracenioides). Sarracine picrate and bitar-
trate were obtained as well as the picrate and
chloroaurate of sarracine N-oxide.

270732

KONOVALOVA, R.

Chemical Abstracts
May 25, 1954
Organic Chemistry

4 Alkaloids from *Senecio jacobaeifolius*. A. V. Dnytkova, R. Konvalova, P. Marsagotov, and M. Gacina. *Dokl. Akad. Nauk S.S.S.R.* 89, 885-886 (1953). The plant contains 0.8-0.9% alkaloids, which treated in the crude state with tartaric acid gives a bitartrate, m. 177-9°, of a base, $C_{11}H_{17}O_4N$, m. 51-2°, $[\alpha]_D^{25} - 129.7^\circ$, isomeric with platyphylline. The new alkaloid was named *sarracine*; it forms a picrate, m. 140-1°, contains a OH but not a methylimine grouping, decolorizes $KMnO_4$ and has an unsatd. link. The alkaloid is an ester, as on sapon. with alkali it yields an amine etc. and org. acids. The former, m. 151-2°, $[\alpha]_D^{25} - 57^\circ$, and yields a picrate, m. 181-5°, thus identifying it as *platynecine*, obtained earlier from the hydrolysis of platyphylline. If the alkaloids are extd. from the plant without preliminary moistening with NH_4OH it is possible to isolate, by extn. with $CHCl_3$, an almost neutral substance, $C_{11}H_{17}O_4N$, m. 123-4° (from Me_2CO), $[\alpha]_D^{25} - 81.6^\circ$ (picrate, m. 107.5-8.5°; chloroaurate, m. 153-5°). Reduction of this with Zn dust yields *sarracine*. This alkaloid thus appears to be an *N*-oxide of *sarracine*. This is confirmed by its formation from *sarracine* with H_2O_2 . G. M. Kosolapoff

4

10-12-54
mdg

OREKHOV, Aleksandr Pavlovich, akademik, 1881-1939; KONOVALOVA, R.A., doktor
khimicheskikh nauk; KONOVALOVA, A.A., kandidat khimicheskikh nauk;
RODIONOV, V.M., akademik, redaktor [deceased]; BIRMISTROVA, M.S.,
redaktor; AUZAN, N.P., tekhnicheskii redaktor.

[Chemistry of alkaloids] Khimiia alkaloidov. Izd-vo 2-e, ispr. 1 dop.
Moskva, Izd-vo Akademii nauk SSSR, 1955. 859 p. (MIRA 8:4)
(Alkaloids)

KONOVALOVA, R.A.; RABINOVICH, M.S.

Academician Aleksandr Pavlovich Orekhov; on the 75th anniversary
of his birth. Khim.nauka i prom. 1 no.4:469-471 '56. (MLRA 9:11)
(OREKHOV, ALEXANDER PAVLOVICH, 1881-?)

5.3610,5.3900

77917
SOV/79-30-2-68/78

AUTHORS: Arendaruk, A. P., Proskurnina, N. F., Konovalova, R. A.

TITLE: Investigation of Alkaloids of Thesium Minkwitzianum Plants

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol 30, Nr 2, pp 670-676 (USSR)

ABSTRACT: The overground part of Thesium Minkwitzianum, an herbaceous plant collected in 1939 in the Turkomen SSR by P. S. Massagetov, was extracted with dichloroethane. They yielded 0.7% alkaloids (based on the dry weight of the plant), consisting of 0.5% of a saturated phenolic base, $C_{34}H_{42}O_6N_2$, mp 254-256° C, which the authors named "thesin" (tezin). The remaining 0.2% alkaloids (after separation of thesin) gave a phenolic fraction, from which a second new alkaloid was isolated. Its empirical formula corresponded best to $C_{17}H_{21}O_3N$, mp 38-40° C; the authors named it "thesinin" (tezinin). Finally, the non-phenolic fraction yielded an alkaloid with an empirical formula $C_{10}H_{11}O_2N$.

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Investigation of Alkaloids of Thesium
Minkwitzianum Plants

77917
SOV/79-30-2-68/78

mp 124-125° C, which the authors named "thesinidin" (tezinitzin). The aqueous extract of the plant roots yielded a crystalline base $C_8H_{15}ON$, mp 39-40° C (identified as d-isoretronecanol), d-mannitol, succinic acid, and acid $C_4H_8O_4$. It was established that thesin is an ester of the dibasic acid $C_{18}H_{16}O_6$ (named by the authors "thesinic acid") and d-isoretronecanol and that thesinin is an ester of p-hydroxycinnamic acid and d-isoretronecanol. There are 1 table; and 4 references, 1 U.S., 1 German, 2 Soviet. The U.S. reference is: R. Adams, K. Hamlin, J. Am. Chem. Soc., 64, 2597 (1942).

ASSOCIATION: Institute of Pharmacology and Chemotherapy, Academy of Medical Sciences USSR (Institut farmakologii i khimioterapii Akademii meditsinskikh nauk SSSR)

SUBMITTED: February 4, 1959

Card 2/2

OREKHOV, Aleksandr Pavlovich, akademik, [deceased]; KABACHNIK,
M.I., akademik, otv. red.; KONOVALOVA, R.A., prof., red.;
GAL'PERN, G.D., prof., red.; SIMUKOVA, N.A., red.

[Chemistry of the alkaloids of plants of the U.S.S.R.]
Khimiia alkaloidov rastenii SSSR. Moskva, Nauka, 1965.
391 p. (MIRA 18:11)

APPROVED FOR RELEASE: 06/19/2000
 ACCESSION NR: AP4045434 RWH/WW/RM S/0190/64/006/009/1668/1675

AUTHOR: Shtersenzon, A. L.; Lobanov, Yu. Ye.; Konovalova, S. F.

TITLE: Penetration of ftorlon with concentrated electrolyte solutions

SOURCE: Vy*sokomolekulyarny*ye soedineniya, v. 6, no. 9, 1964, 1668-1675

TOPIC TAGS: ftorlon polymer, polymer film, corrosion preventing film, polymer permeability, concentrated electrolyte penetration, polymer penetration factor

ABSTRACT: Ftorlon, a copolymer of tetrafluoroethylene and vinylidene fluoride, has been evaluated as a corrosion-resisting film in very aggressive electrolyte solutions such as concentrated H_2SO_4 , H_3PO_4 , KNO_3 , KCl , HCl , HNO_3 , NH_3 , and CH_3COOH , at 42—50C. In the absence of a satisfactory explanation for the sharp differences in permeability of a given polymer with various electrolytes, an attempt was made to explain the mechanism of penetration of a chemically

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L 8922-65

ACCESSION NR: AP4045434

stable polymer. Electrical conductivity measurements made it possible to calculate the penetration factor and hence the permeability of a fluoron film. The absence of penetration of nonvolatile electrolytes, such as H_2SO_4 , H_3PO_4 , and salts, and the relatively high permeability of the film to volatile electrolytes (HCl , HNO_3), were established. This difference in permeability is explained in terms of a difference in sorption of the electrolytes on a polymer, which is determined by the work function of the electrolyte molecules from aqueous solution. The mechanism of penetration of non-swelling polymers with a low dielectric constant is similar for both electrolytes and gases and vapors, since the electrolytes are believed to be undissociated in such polymers. The near-exponential concentration dependence of the penetration factor was established with volatile electrolytes and was ascribed to the similar character of the change in electrolyte activity in aqueous solution with a change in concentration. Orig. art. has: 3 figures and 16 formulas.

Card

2/3

L 8922-65

ACCESSION NR: AP4045434

ASSOCIATION: Ural'skiy nauchno-issledovatel'skiy khimicheskiy institut, Sverdlovsk (Ural Scientific Research Institute of Chemistry)

SUBMITTED: 13Nov63

ATD PRESS: 3110

ENCL: 00

SUB CODE: MT

NO REV SOV: 017

OTHER: 010

Cord 3/3

22512

S/062/61/000/004/001/008
B118/B208

15.2100

1142, 1273, 1145

AUTHORS: Toropov, N. A., Galakhov, F. Ya., and Konovalova, S. F.
TITLE: Silicates of rare earth elements. 2. Phase diagram of the
binary system gadolinium oxide - silicon dioxide
PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk,
no. 4, 1961, 539-543

TEXT: The lanthanum silicate $2\text{La}_2\text{O}_3 \cdot 3\text{SiO}_2$ was synthesized and described
for the first time by N. A. Toropov and I. A. Bondar' (Izv. AN SSSR, Otd.
khim. n., 1959, 552), and its melting range in the system $\text{La}_2\text{O}_3\text{-SiO}_2$ was
determined. The structure of gadolinium oxide described by C. E. Curtis,
I. R. Johnson was not confirmed by these scientists. The purpose of the
present work was therefore the study of the system $\text{Gd}_2\text{O}_3\text{-SiO}_2$. The
authors proceeded from a 98.2% gadolinium oxide containing 1.75% of other
rare earths, and powdery rock crystal (99.90% SiO_2). The study was per-
formed in different ways by an annealing and hardening method. The phases

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Silicates of rare earth...

give $2\text{Gd}_2\text{O}_3 \cdot 3\text{SiO}_2$ and a liquid. Table 3 presents formulas and temperatures of the invariant points of the system $\text{Gd}_2\text{O}_3\text{-SiO}_2$. The oxy-orthosilicates $\text{Gd}_2\text{O}(\text{SiO}_4)$, the orthosilicates $\text{Gd}_4(\text{SiO}_4)_3$, and the pyrosilicates $\text{Gd}_2\text{Si}_2\text{O}_7$ have been synthesized and described. The authors determined the ranges of separation into layers and the respective upper-limit critical point. Fig. 2 shows roentgenograms of the compounds. There are 5 figures, 3 tables, and 5 references: 2 Soviet-bloc and 3 non-Soviet-bloc. The three references to English-language publications read as follows: F. P. Glasser, I. Warshaw, R. Roy, Amer.Ceram.Soc.Bull.38,169(1959); I. Warshaw, R. Roy, Amer.Ceram.Soc.Bull.38,169(1959); C. E. Curtis, I. R. Johnson, I.Amer.Ceram.Soc.40,15(1957).

ASSOCIATION: Institut khimii silikatov Akademii nauk SSSR (Institute of Silicate Chemistry of the Academy of Sciences USSR)

SUBMITTED: January 18, 1960

Card. 3/7

26399
S/062/61/000/008/001/010
B'17/B206

15.2230

AUTHORS:

Toropov, N. A., Galakhov, F. Ya., and Kenovalova, S. F.

TITLE:

Silicates of rare earths. Communication 5. Phase diagrams of the systems $Dy_2O_3-SiO_2$ and $Er_2O_3-SiO_2$

PERIODICAL:

Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh nauk, no. 8, 1961, 1365-1371

TEXT: The authors investigated the binary systems $Dy_2O_3-SiO_2$ and $Er_2O_3-SiO_2$ according to the method explained in previous studies by

N. A. Toropov et al. (Ref. 2: Izv. AN SSSR, Otd. khim. n., 1961, 539; Refs. 1, 3, 4: Izv. AN SSSR, Otd. khim. n., 1960, 153; Izv. AN SSSR, Otd. khim. n., 1961, 544; Izv. AN SSSR, Otd. khim. n., 1961, 716). The specimens were prepared from dysprosium oxide with a content of oxides of other rare earths of less than 0.6 %, from erbium oxide (99.1 %) with 0.85 % admixtures and from rock crystal powder (99.90 % SiO_2). Dysprosium oxide annealed at 1000°C has a cubical structure, refractive index of $n=1.88$ and melting point of 2210°C. After being alloyed in the electric

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B117/B206

Silicates of rare earths...

arc, it disintegrates into powder even at very fast cooling. After this treatment, however, the specimen contains a certain amount of a high-temperature variety. This could be ascertained when comparing the roentgenograms of a specimen annealed at 1000°C and one alloyed in the arc, as well as microscopically. The mean refractive index of the high-temperature phase is $n=1.975$. On the basis of experiments, dysprosium oxide must be classified as belonging to the group of polymorphic oxides of rare earths. This corresponds to the latest data by M. W. Shafer and R. Roy (Ref. 6; J. Amer. Ceram. Soc. 42, N 11 (1959)). Erbium oxide differs from dysprosium oxide by the fact that it does not disintegrate after being alloyed in the arc. The optical properties and roentgenograms of Er_2O_3 annealed at 1000°C and of that alloyed in the arc are identical.

Presumably, Er_2O_3 only exists in cubical form in the temperature range of from 1000°C up to the melt. The refractive index is $n=1.95$, the melting point 2290°C. The phase diagram of the system $\text{Dy}_2\text{O}_3 \cdot \text{SiO}_2$ (Fig. 2) drawn up on the basis of the experimental annealing- and hardening results shows the existence of three compounds: $\text{Dy}_2\text{O}_3 \cdot \text{SiO}_2$, $2\text{Dy}_2\text{O}_3 \cdot 3\text{SiO}_2$ and $\text{Dy}_2\text{O}_3 \cdot 2\text{SiO}_2$. Compounds of similar compositions were also found in the system $\text{Er}_2\text{O}_3 \cdot \text{SiO}_2$.

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(Fig. 3). The optical properties and density of the compounds produced are contained in Table 3 and the calculated interplanar spaces in Table 4. The oxy-orthosilicates $Dy_2O[SiO_4]$ and $Er_2O[SiO_4]$ as well as the orthosilicates $Dy_4[SiO_4]_3$ and $Er_4[SiO_4]_3$ melt without decomposition. However, the latter two are only stable in a specific temperature range. Below this range, they decompose into oxy-orthosilicates and pyrosilicates. During melting, dysprosium pyrosilicate $Dy_2[Si_2O_7]$ decomposes into orthosilicate $Dy_4[SiO_4]_3$ and liquid. A great change of the properties of silicates of rare earths was first determined in erbium pyrosilicate $Er_2[Si_2O_7]$: in contrast to silicates with a lower ordinal number (Y, La, Sm, Gd, Dy), it melts without decomposition and has a corresponding maximum on the phase diagram of $Er_2O_3-SiO_2$. Moreover, it differs from other pyrosilicates by a much higher double refraction. Composition and temperature of the eutectics between oxy-ortho- and orthosilicates of both systems and the eutectic between ortho- and pyrosilicates of the $Er_2O_3-SiO_2$ system could not be exactly ascertained, and are therefore marked on the phase diagrams

Card 3/8

TOROPOV, N.A.; GALAKHOV, F.Ya.; KONOVALOVA, S.F.

Rare earth silicates. Report No.5: Phase diagrams of the system $Dy_2O_3 - SiO_2$ and $Er_2O_3 - SiO_2$. Izv. AN SSSR. Otd. khim.nauk no.8:1365-1371 Ag²61. (MIRA 14:8)

1. Institut khimii silikatov AN SSSR.
(Dysprosium oxide)
(Erbium oxide)
(Silica)

S/062/62/000/005/001/008
B110/B101

AUTHORS: Toropov, N. A., Galakhov, F. Ya., and Konovalova, S. F.

TITLE: Silicates of rare-earth elements. 9. Solid solutions between yttrium and erbium silicates

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh nauk, no. 5, 1962, 738-743

TEXT: The systems $Y_2O_3 \cdot SiO_2 - Er_2O_3 \cdot SiO_2$; $2Y_2O_3 \cdot 3SiO_2 - 2Er_2O_3 \cdot 3SiO_2$, and $Y_2O_3 \cdot 2SiO_2 - Er_2O_3 \cdot 2SiO_2$ were investigated. The samples were produced from the respective oxides in accordance with I. A. Bondar' (Izv. AN SSSR, Otd. khim. n. 1962, 377; *ibid.*, 1962, 383), heated in a platinum furnace and a vacuum microfurnace, and examined by microscope and X-ray analysis. Results: (1) The phase diagrams of diortho- and orthosilicates of yttrium and erbium are similar, and large zones of solid solutions are formed in both. (2) The interruption of reciprocal solubility is a small section in the middle of a few tenths percent. According to Rozeboom, they belong to the 5th type of diagrams with solid

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Silicates of rare-earth elements. 9. ... S/062/62/000/005/001/008
B110/B101

solutions. (3) There is a small field of primary crystallization of yttrium orthosilicate due to fusion of yttrium diorthosilicate during decomposition. The roentgenograms showed: (a) Pure yttrium silicates and their solid solutions with 40% erbium silicate display monotype roentgenograms. (b) If erbium silicate $\gg 60\%$, solid solutions form on the base of it. (c) Samples with equal silicate content (50%) yield a mixture of two solid solutions. (4) There is no interruption of solubility in oxyorthosilicates ($Y_2O_3 \cdot SiO_2 - Er_2O_3 \cdot SiO_2$). The liquidus curve of the continuous series of solid solutions has a minimum shifted toward erbium oxyorthosilicate (3rd Rozeboom type). As the two elements belong to different structural sub-groups, the formation of a continuous solid solution can be explained by the low packing density of the structural elements. However, as in diortho and orthosilicate systems, the minimum also points to a tendency toward interrupting solubility. Different silicate types of the same (yttrium and erbium) rare-earth elements form diagrams of different types of solid solutions among one another. The slight difference (1.9%) of the ionic radii of yttrium and erbium, on the one hand, favors the formation of continuous solid

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Silicates of rare-earth elements. 9. ... B110/B101 S/062/62/000/005/001/008

solutions, but the structural difference of yttrium and erbium silicates, on the other, is an obstacle to it. As a result, different types of silicates of the samerare-earth elements form either continuous or limited solid solutions among one another. There are 4 figures and 3 tables.

ASSOCIATION: Institut khimii silikatov Akademii nauk SSSR
(Institute of Silicate Chemistry of the Academy of
Sciences USSR)

SUBMITTED: October 31, 1961

Card 3/3

TOROPOV, N.A.; GALAKHOV, F.Ya; KONOVALOVA, S.F.

Rare earth silicate elements. Report No.9: Solid
solutions formed by yttrium and erbium silicates. Izv. AN SSSR.
Otd.khim.nauk no.5:738-743 My '62. (MIRA 15:6)
(Yttrium silicates) (Erbium silicates) (Solid solutions)

L 17850-65 EMP(e)/EPA(s)-2/EWT(m)/EPF(n)-2/EPA(w)-2/T/EPA(bb)-2/EMP(b)
Pab-10/Pq-l/Pt-10/Pu-l ASD(m)-3 WW/WH
ACCESSION NR: AP4044698 S/0062/64/000/008/1373/1377

AUTHOR: Galakhov, F. Ya. ; Konovalova, S. F. B

TITLE: Liquefaction phenomena in the $Al_2O_3-SiO_2$ system Communication 1.
Experimental data and their discussion

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 8, 1964, 1373-1377

TOPIC TAGS: alumina silica system, liquefaction, heat treatment, microliquefaction,
transparent glass, opalescent glass, porcelain, x ray ionization, microhardness,
mechanical strength

ABSTRACT: The unique structures formed by heat treatment in the $Al_2O_3-SiO_2$ system were apparently caused by microliquefaction, i. e. , the formation of two liquids with very high mutual dispersion. Preliminary work indicated that a transparent glass containing 20-40% alumina¹⁵ became opalescent after heating at 1300C for 1 hour; heating at 1600C gave a porcelain-like material in which the individual crystals were so fine they were not visible. Hence the conditions for

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L 17850-65

ACCESSION NR: AP4044698

3

liquation in the Al_2O_3 - SiO_2 system were examined. Compositions containing 15-60 wt. % alumina were heat treated--(1) heated prior to annealing to 150-200 degrees above the annealing temperature, cooled to the holding temperature, then quenched, or (2) heated at 1600C without previous remelting or subsequent quenching. Samples were subjected to microscopic, electron microscope, x ray polarization examinations and microhardness testing. Microliquation was fixed in compositions of 20-60 wt. % Al_2O_3 after samples were annealed at temperatures above the liquidus temperature. It was believed one liquid would crystallize, catalysing crystallization of the less-readily crystallizable liquid, and then the crystallized areas would combine. Their structure and composition was similar, only their particle size differed, causing formation of coarse oval crystallized particles with fine ridges. The microhardness of these oval crystallized particles was much higher than that of the surrounding glass, e g., 845 vs. 645 kg/mm² in a 50-50 Al_2O_3 - SiO_2 glass annealed at 1850C for 30 seconds. This increased mechanical strength indicates the possibility of obtaining pyroceramics based on mullite which would probably have greater fire resistance due to the higher fusion temperature of the mullite. Orig. art. has: 1 figure.

Card 2/3

L 17850-65
ACCESSION NR: AP4044698

ASSOCIATION: None

SUBMITTED: 24Dec62

ENCL: 00

SUB CODE: MT

NO REF SOV: 000

OTHER: 004

Card 3/3

GALAKHOV, F.Ya.: KONOVALOVA, S.F.

Liquation phenomena in silicate melts. Dokl. AN SSSR 155 no.1:
122-124 Mr '64. (MIRA 17:4)

1. Institut khimii silikatov im. I.V.Grebenshehikova AN SSSR.
Predstavleno akademikom N.N.Semenovym.

GALAKHOV, F.Ya.; KONOVALOVA, S.F.

Liquation phenomena in the system $Al_2O_3-SiO_2$. Report No 1:
Experimental data and their discussion. Izv. AN SSSR. Ser.
khim. no.8:1373-1377 Ag '64. (MIRA 17:9)

1. Institut khimii silikatov im. I.V. Grebenshchikova AN SSSR.

SHTERENZON, A.L.; LOBANOV, Yu.Ye.; KONOVALOVA, S.F.

Penetration of concentrated electrolyte solutions through ftorlon.
Vysokom.sped. 6 no.9:1668-1675 S '64. (MIRA 17:10)

1. Ural'skiy nauchno-issledovatel'skiy khimicheskiy institut, Sverd-
lovsk.

L 12053-55 EWT(1)/EPF(2)-2/ETC(2)

ACC NR: AP6001307 SOURCE CODE: UR/0363/65/001/008/1399/1402

AUTHOR: Galakhov, F. Ya.; Konovalova, S. F.

ORG: Institute of Silicate Chemistry Im. I. V. Grebenshchikov, Academy of Sciences SSSR
(Institut khimii silikatov Akademiya nauk SSSR)

TITLE: Liquefaction phenomena in the $\text{Li}_2\text{O}-\text{TiO}_2-\text{SiO}_2$ system

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 1, no. 8, 1965, 1399-1402

TOPIC TAGS: lithium oxide, titanium oxide, silicon dioxide, phase diagram

ABSTRACT: In order to refine the position of the region of liquation on the phase diagrams of silicate systems, the $\text{Li}_2\text{O}-\text{TiO}_2-\text{SiO}_2$ system was studied as a typical example of a phase diagram in which the regions of macro- and microliquation need to be accurately defined. Samples prepared from Li_2CO_3 , TiO_2 , and SiO_2 were melted, annealed, and quenched, then their polished sections were examined under the microscope. Marked differences between the structures of the quenched samples made it possible to readily establish the boundary between the regions of macro- and microliquation, and the corresponding refined phase diagram was plotted (see Fig. 1). The region earlier thought to consist of two liquids is actually made up of two portions, and the region of ordinary liquation is bounded by an Li_2O content of 1 - 2% instead of the 20% indicated by the initial diagram. In the light of the establishment of the

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UDC: 541.123.3

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